

LAB 4

Tasks

Two brand-name prescriptions

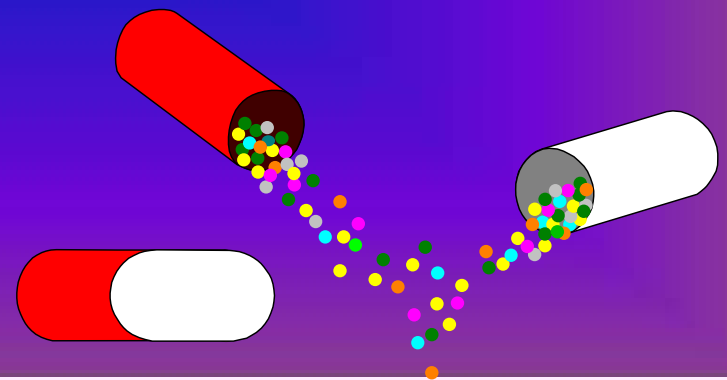
One compounding exercise

One compounded prescription

One OTC counseling scenario

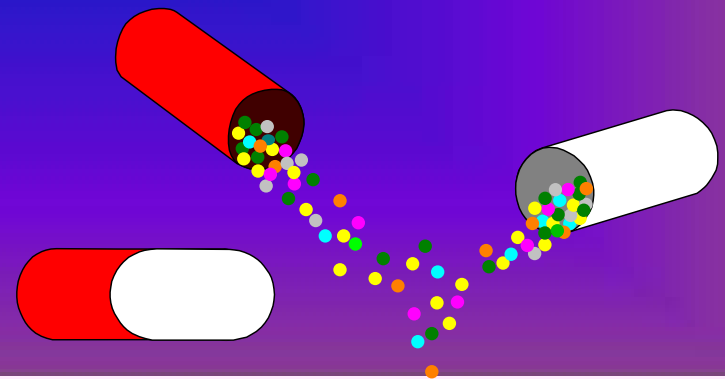


The Art of Making Capsules



Properties of a Pharmaceutically Elegant Capsule

- Completely filled (no “cracks”)
- Uniform appearance
- No powder in seal
- No fingerprints
- Polished



Steps to Filling Capsules

#1...Determine capsule size

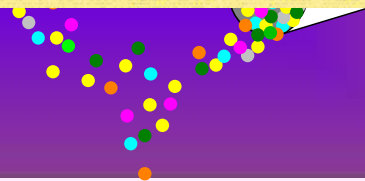
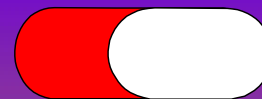
- 000, 00, 0, 1, 2, 3, 4, 5
- Compare ingredients to list ingredients

1000 CAPSULAS DE GELATINA VACIAS, No. 00

CAPACIDAD APROXIMADA DE LAS CAPSULAS VACIAS

No. 000 00 0 1 2 3 4 5

Sulfato de Quinina.....g	0.65	0.39	0.325	0.227	0.20	0.130	0.10	0.065
Bicarbonato de Sodio.....g	0.43	0.97	0.700	0.520	0.39	0.325	0.26	0.130
Acido Acetilsalicílico.....g	1.05	0.65	0.520	0.325	0.26	0.200	0.16	0.100
Subnitrato de Bismuto.....g	1.80	1.30	0.900	0.650	0.52	0.390	0.26	0.130



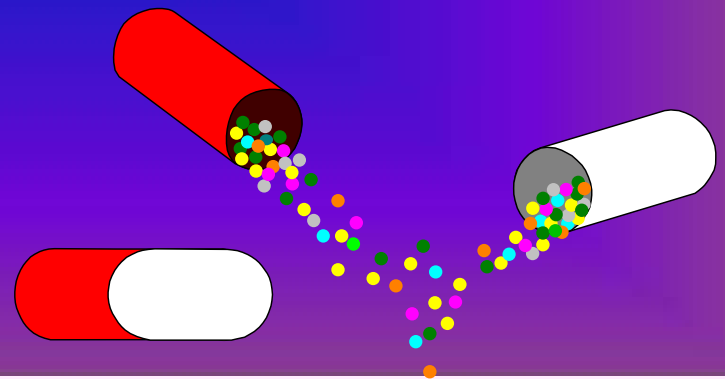
For example...

R_x

Drug A 10 mg

Drug B 25 mg

M. ft. caps #15

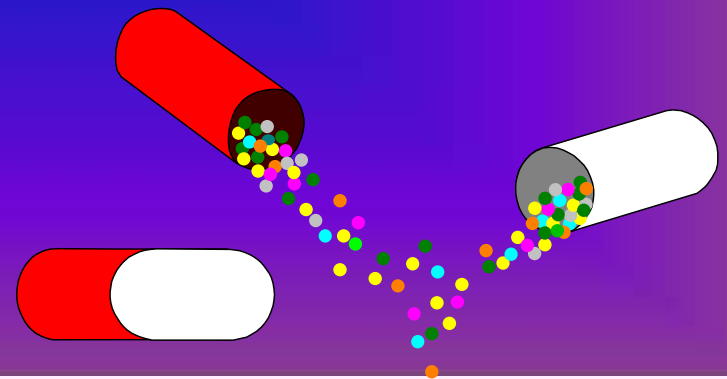


Steps to Filling Capsules

#1...Determine capsule size

■ Total ingredients

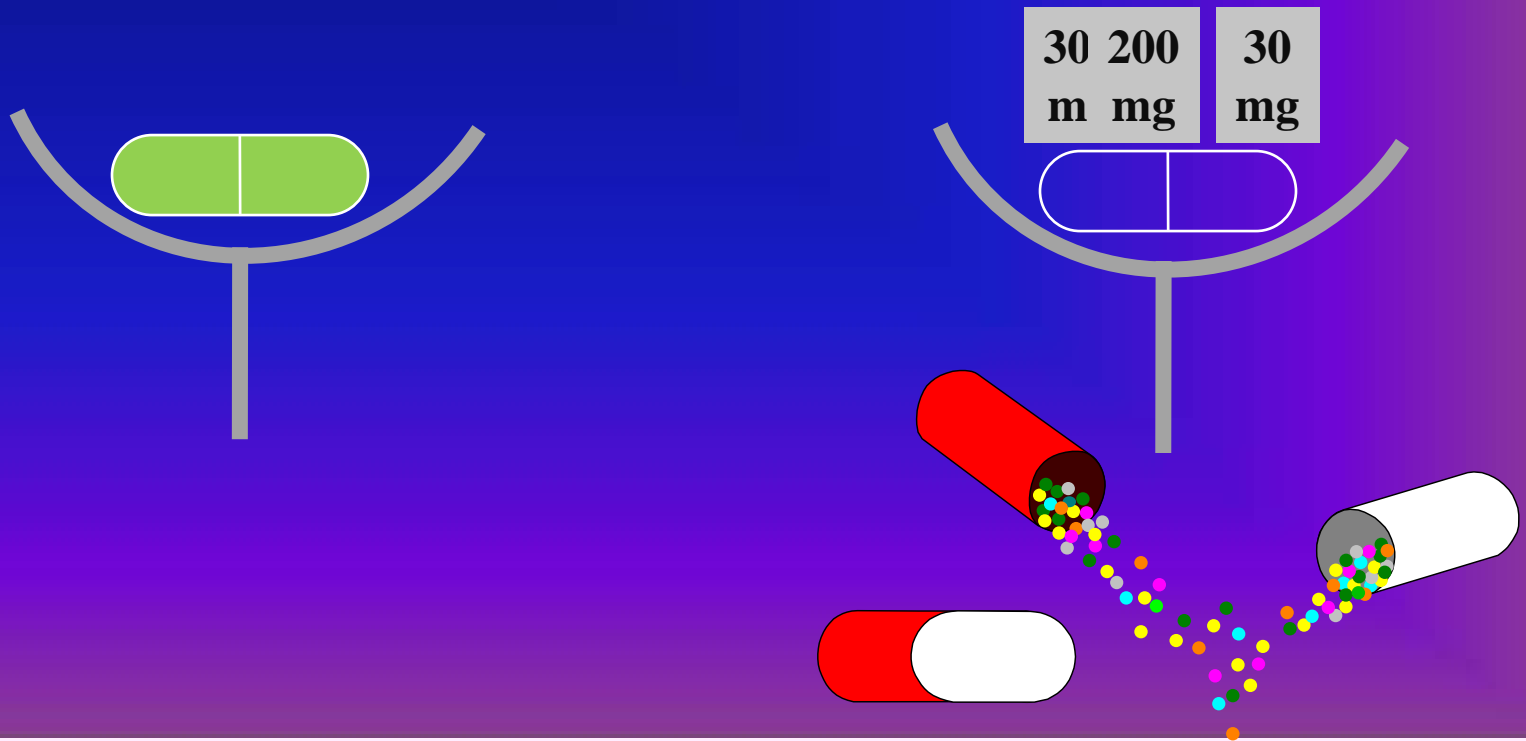
- 10 mg + 25 mg = 35 mg
- Any size capsule will work
 - » Choose size 2 capsule



#2... Calculate diluent requirement

A. Weigh a capsule filled with each ingredient

- Capsule filled with Drug A and empty capsule shell
- Start with ~300 mg for size 2 capsule

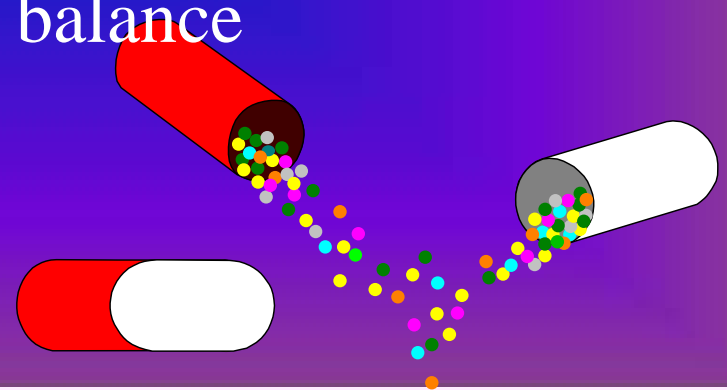


#2...Calculate diluent requirement

A. Weigh a capsule filled with each ingredient

■ Tips

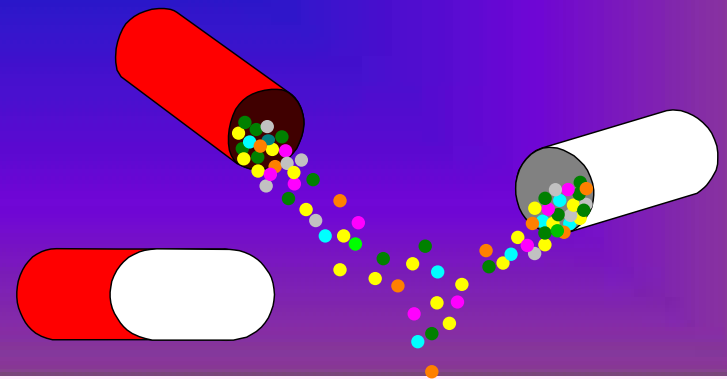
- Use the cookie cutter or scoop method
- Fill only the bottom part of the capsule
- Do NOT use weighing papers
 - Make sure no powder residue stays on the pan
- Don't close the capsule completely
- Don't use the dial on the balance



#2... Calculate diluent requirement

A. Weigh a capsule filled with each ingredient

- Capsule full of Drug A weighs 230 mg
- Capsule full of Drug B weighs 350 mg
- Capsule full of Diluent weighs 340 mg



#2...Calculate diluent requirement

B. Calculate diluent displacement for each ingredient

■ Drug A

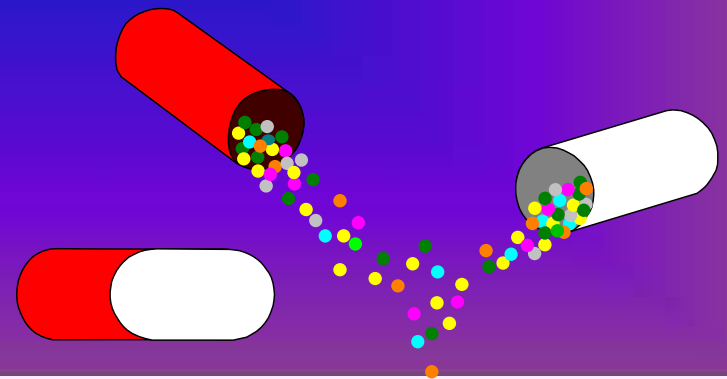
$$\frac{230 \text{ mg}}{340 \text{ mg}} = \frac{10 \text{ mg}}{x}$$

$$x = 14.78 \text{ mg}$$

■ Drug B

$$\frac{350 \text{ mg}}{340 \text{ mg}} = \frac{25 \text{ mg}}{x}$$

$$x = 24.29 \text{ mg}$$



#2...Calculate diluent requirement

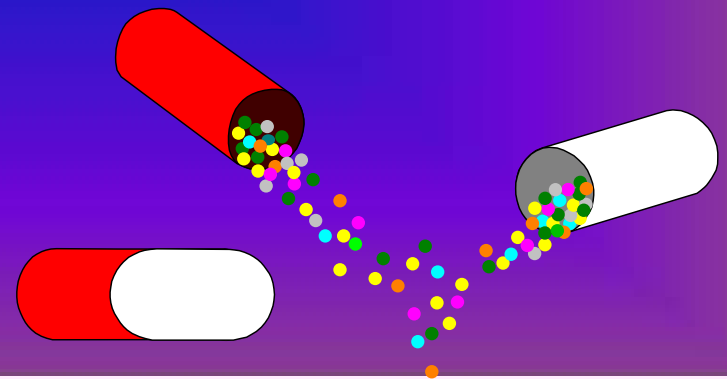
C. Calculate amount of diluent per capsule

■ Total

- $14.78 \text{ mg} + 24.29 \text{ mg} = 39.07 \text{ mg}$ displaced

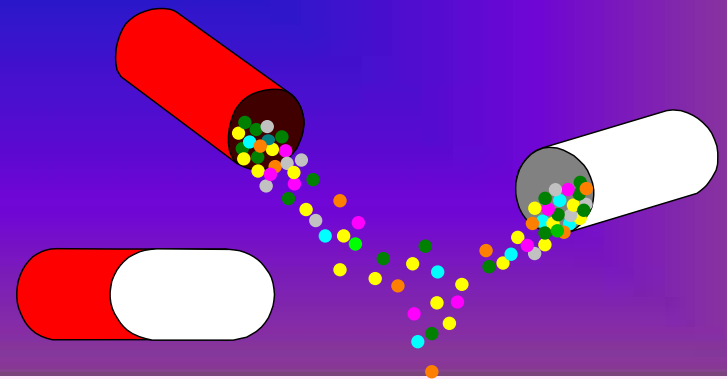
■ Amount of diluent per capsule

- $340 \text{ mg} - 39.07 \text{ mg} = 300.93 \text{ mg}$



#3...Determine the total weight of each capsule

- Add the weight per capsule of each ingredient
 - Drug A = 10 mg
 - Drug B = 25 mg
 - Diluent = 300.93 mg
 - TOTAL = 335.93 mg ~ 340 mg
 - » Don't round until the final weight



#4...Calculate total amount of each ingredient needed to fill the prescription

■ Calculate for 2 extra capsules unless you are using a potent or controlled drug

- Drug A

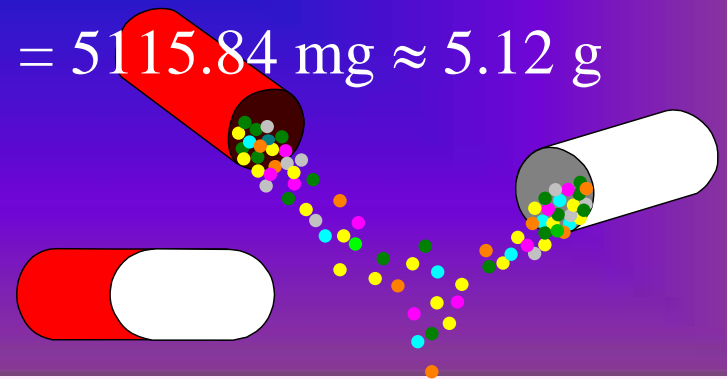
- » $10 \text{ mg/cap} \times 17 \text{ caps} = 170 \text{ mg}$

- Drug B

- » $25 \text{ mg/cap} \times 17 \text{ caps} = 425 \text{ mg} \approx 430 \text{ mg}$

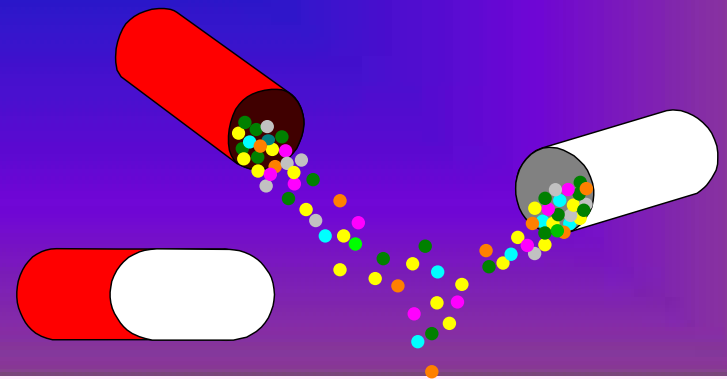
- Diluent

- » $300.93 \text{ mg/cap} \times 17 \text{ caps} = 5115.84 \text{ mg} \approx 5.12 \text{ g}$



Steps to Filling Capsules

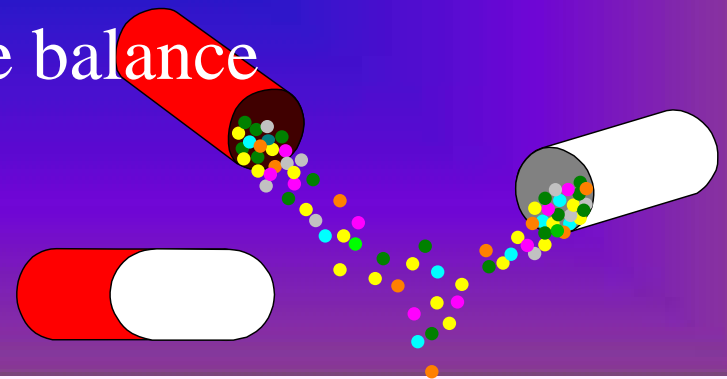
5. Weigh the total amount of each ingredient
 - Use weighing paper with powders
6. Combine ingredients using geometric dilution if necessary
 - Must be uniformly mixed



Steps to Filling Capsules

7. Fill and weigh each capsule

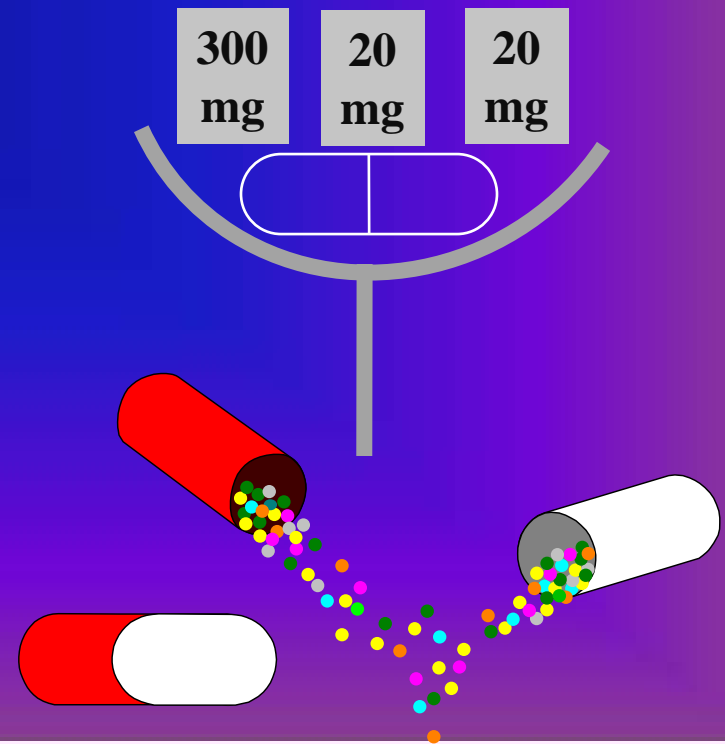
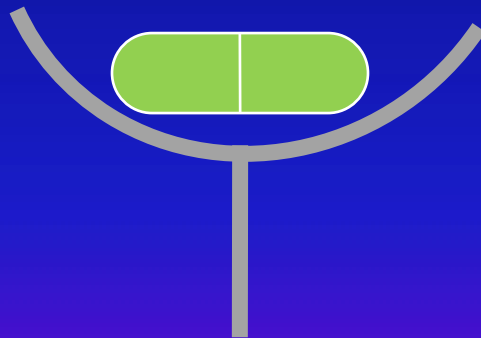
- Use the cookie cutter or scoop method
- Fill only the bottom part of the capsule
- Do NOT use weighing papers
 - Make sure no powder residue stays on the pan
- Don't close the capsule completely
- Don't use the dial on the balance



Steps to Filling Capsules

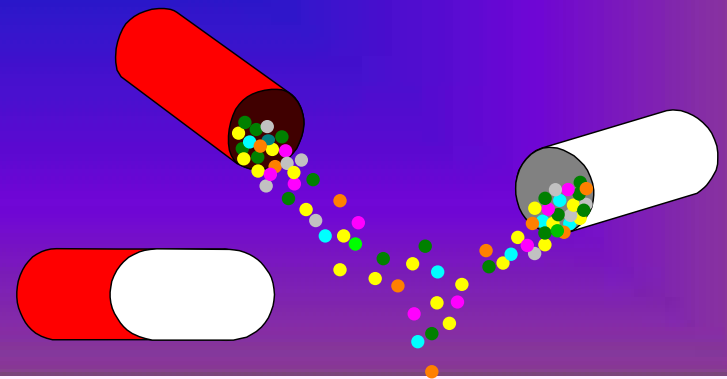
7. Fill and weigh each capsule

- » Capsule is too light...add more powder
- » Capsule is too heavy...take out a little powder
- » BE PATIENT!! 😊



On the Method of Preparation

- Color of capsule shell
- Size of capsule
- Weight of the contents of each capsule
- Diluent used if not specified on prescription
- Anything peculiar about the prescription (i.e. use of a tracer)



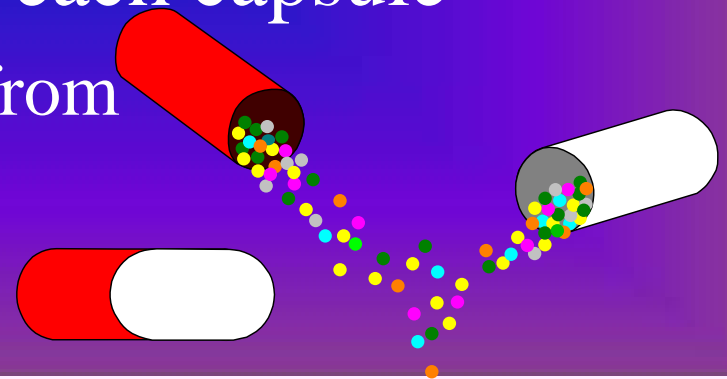
“Prep” #6 – Capsule practice

- This exercise must be completed before beginning Prep #7
- Capsule size given in lab based on availability
- Powder is Magnesium Carbonate or Magnesium Oxide
- Only capsules will be graded
 - No label, compounding worksheet, or counseling required



Prep #7 – Sodium Fluoride capsules

- Use patient's name from brand-name prescription
- Find what a high dose of sodium fluoride would be used to treat
 - Not for tooth decay prevention
- Use 20 mg of tracer for each capsule
 - Many colors to choose from



Prep #7 – Sodium Fluoride capsules

- Re-use sodium fluoride and tracer used to determine displacement factor
- Label...”Sodium Fluoride __ mg capsules”
 - Charge for six, calculate for eight
- Packaging...plastic Rx vial
- Store...room temperature
- Expiration date...6 months

